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*       U. S.   P A T E N T   T E X T   F I L E
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=> s 156/278,292/cclst

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          427 156/278/CCLST
          1140 156/292/CCLST
L1        1560 156/278,292/CCLST
          ((156/278 OR 156/292)/CCLST)

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=> s l1 and (batteries or battery) and (antenna or antennas) and integrated(w)circuit and (transceiver or transceivers)

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          39892 BATTERIES
          119483 BATTERY
          47378 ANTENNA
          16314 ANTENNAS
          251513 INTEGRATED
          627563 CIRCUIT
          98310 INTEGRATED(W)CIRCUIT
          14443 TRANSCEIVER
          6682 TRANSCEIVERS
L2        0 L1 AND (BATTERIES OR BATTERY) AND (ANTENNA OR ANTENNAS) AND
IN        TEGRATED(W)CIRCUIT AND (TRANSCEIVER OR TRANSCEIVERS)

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=> s l1 and transceiver

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          14443 TRANSCEIVER
L3        1 L1 AND TRANSCEIVER

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=> d 13 1 bib,ab,cls

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US PAT NO:      5,334,275 [IMAGE AVAILABLE]          L3: 1 of 1
DATE ISSUED:    Aug. 2, 1994
TITLE:          Method and apparatus for stacking and fabricating
                  honeycomb insulating material
INVENTOR:       Frank C. Romeo, Fort Worth, TX
                  Harlan A. Holmes, Los Angeles, CA
ASSIGNEE:       Home Fashions, Inc., Santa Monica, CA (U.S. corp.)
APPL-NO:        07/839,600
DATE FILED:     Feb. 21, 1992
ART-UNIT:       131
PRIM-EXMR:      Michael W. Ball
ASST-EXMR:      Richard Crispino
LEGAL-REP:      Wallenstein, Wagner & Hattis, Ltd.

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US PAT NO:      5,334,275 [IMAGE AVAILABLE]          L3: 1 of 1

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ABSTRACT:  
Apparatus for mass producing one or more individual stacks of expandable, secured together tubular strips which includes a stacking station having an inlet and a conveyor system for sequentially delivering tubular strips having a flat face sequentially to a point opposite said inlet. The stacking station includes pushing apparatus opposite said inlet for pushing the strip delivered opposite said inlet into said chamber. The pushing apparatus has a strip-holding face lying in a given plane and having suction apertures for holding said flat face of each strip

delivered thereto in said plane. The pushing member is moved back and forth into and out of said stacking chamber at said inlet with said strip-holding face presented parallel to the flat face of the previous strip delivered to said stacking chamber to push the opposite side of the strip against the flat face of the adjacent strip in said chamber to secure the strips together and form a substantially unwrinkled stack of aligned strips.

5,334,275 [IMAGE AVAILABLE] 9 CLASSIFICATIONS L3: 1 of 1

1.	156/264	OR
2.	156/197	XR
3.	156/270	XR
4.	156/285	XR
5.	<b>156/292</b>	XR
6.	156/362	XR
7.	156/379	XR
8.	156/381	XR
9.	156/563	XR

=> s 156/clas and transceiver

70202 156/CLAS  
14443 TRANSCEIVER

L4 22 156/CLAS AND TRANSCEIVER

=> d 14 1-22 bib,ab,cls

US PAT NO: 5,859,943 [IMAGE AVAILABLE] L4: 1 of 22  
DATE ISSUED: Jan. 12, 1999  
TITLE: Optical module and method for manufacturing the optical  
INVENTOR: Hiroyuki Asakura, Osaka, Japan  
Masanori Iida, Neyagawa, Japan  
Masaki Kobayashi, Neyagawa, Japan  
ASSIGNEE: Matsushita Electric Industrial Co., Ltd., Osaka, Japan  
(foreign corp.)  
APPL-NO: 08/919,139  
DATE FILED: Aug. 27, 1997  
ART-UNIT: 284  
PRIM-EXMR: Hemang Sanghavi  
LEGAL-REP: Merchant, Gould, Smith, Edell, Welter & Schmidt, P.A.

US PAT NO: 5,859,943 [IMAGE AVAILABLE] L4: 1 of 22

ABSTRACT:

In an optical module such as an optical branching and multiplexing device used in an optical communication system, optical waveguides are formed on a surface of an optical waveguide substrate and optical fibers are held by arranging guide grooves on an optical fiber arranging substrate. The optical waveguide substrate has positioning guide grooves which can engage with the arranging guide grooves. The pitch of the optical waveguides on end faces of the optical waveguide substrate coincide with the pitch of the arranging guide grooves, so that the optical fibers and the optical waveguides are coupled accurately without any adjustment.

5,859,943 [IMAGE AVAILABLE] 5 CLASSIFICATIONS L4: 1 of 22

1.	385/49	OR
2.	<b>156/259</b>	XR
3.	<b>156/264</b>	XR
4.	264/1.25	XR
5.	385/52	XR

US PAT NO: 5,807,449 [IMAGE AVAILABLE] L4: 2 of 22  
DATE ISSUED: Sep. 15, 1998  
TITLE: Workpiece treating apparatus and method of treating same  
INVENTOR: Jeffrey A. Hooker, 405 Fifth Ave., Melbourne, FL 32951  
James E. Spencer, Jr., 1042 Manigan Ave., Oviedo, FL 32765  
APPL-NO: 08/780,334  
DATE FILED: Jan. 8, 1997  
ART-UNIT: 174  
PRIM-EXMR: David A. Simmons  
ASST-EXMR: Paul M. Rivard

US PAT NO: 5,807,449 [IMAGE AVAILABLE] L4: 2 of 22

ABSTRACT:

An apparatus and methods are provided for treating a workpiece such as a shoe component. The workpiece treating apparatus preferably includes a transporter for transporting a workpiece along a predetermined path of travel and a storage device for storing a plurality of predetermined parameters of each of a plurality of workpieces. A workpiece identifier is positioned responsive to the storage device for identifying the workpiece during travel along the predetermined path. A workpiece treatment applicator is positioned adjacent the transporter and responsive to the workpiece identifier for applying a treatment a workpiece being transported along the predetermined path of travel. A workpiece treatment position determiner preferably is positioned responsive to the workpiece identifier for continuously determining the position of the workpiece treatment applicator along a predetermined trajectory during treatment of the workpiece.

5,807,449 [IMAGE AVAILABLE] 9 CLASSIFICATIONS L4: 2 of 22

- |    |         |    |
|----|---------|----|
| 1. | 156/64  | OR |
| 2. | 12/142F | XR |
| 3. | 118/680 | XR |
| 4. | 118/682 | XR |
| 5. | 156/350 | XR |
| 6. | 156/356 | XR |
| 7. | 156/357 | XR |
| 8. | 156/360 | XR |
| 9. | 702/150 | XR |

US PAT NO: 5,779,839 [IMAGE AVAILABLE] L4: 3 of 22  
DATE ISSUED: Jul. 14, 1998  
TITLE: Method of manufacturing an enclosed **transceiver**  
INVENTOR: Mark E. Tuttle, Boise, ID  
John R. Tuttle, Boise, ID  
Rickie C. Lake, Eagle, ID  
ASSIGNEE: Micron Communications, Inc., Boise, ID (U.S. corp.)  
APPL-NO: 08/947,681  
DATE FILED: Sep. 26, 1997  
ART-UNIT: 134  
PRIM-EXMR: David A. Simmons  
ASST-EXMR: Paul M. Rivard  
LEGAL-REP: William R. Bachand, Robert J. Stern

US PAT NO: 5,779,839 [IMAGE AVAILABLE] L4: 3 of 22

ABSTRACT:

The present invention teaches a method of manufacturing a enclosed **transceiver**, such as a radio frequency identification ("RFID") tag. Structurally, in one embodiment, the tag comprises an integrated circuit (IC) chip, and an RF antenna mounted on a thin film substrate powered by a thin film battery. A variety of antenna geometries are compatible with the above tag construction. These include monopole antennas, dipole antennas, dual dipole antennas, a combination of dipole and loop

antennas. Further, in another embodiment, the antennas are positioned either within the plane of the thin film battery or superjacent to the thin film battery.

5,779,839 [IMAGE AVAILABLE] 3 CLASSIFICATIONS L4: 3 of 22

1. 156/213 OR
2. 29/855 XR
3. 156/308.4 XR

US PAT NO: 5,776,278 [IMAGE AVAILABLE] L4: 4 of 22

DATE ISSUED: Jul. 7, 1998

TITLE: Method of manufacturing an enclosed **transceiver**

INVENTOR: Mark E. Tuttle, Boise, ID

John R. Tuttle, Boise, ID

Rickie C. Lake, Eagle, ID

ASSIGNEE: Micron Communications, Inc., Boise, ID (U.S. corp.)

APPL-NO: 08/781,107

DATE FILED: Jan. 9, 1997

ART-UNIT: 134

PRIM-EXMR: David A. Simmons

ASST-EXMR: Paul M. Rivard

LEGAL-REP: Wells, St. John, Roberts, Gregory & Matkin, P.S.

US PAT NO: 5,776,278 [IMAGE AVAILABLE] L4: 4 of 22

ABSTRACT:

The present invention teaches a method of manufacturing an enclosed **transceiver**, such as a radio frequency identification ("RFID") tag. Structurally, in one embodiment, the tag comprises an integrated circuit (IC) chip, and an RF antenna mounted on a thin film substrate powered by a thin film battery. A variety of antenna geometries are compatible with the above tag construction. These include monopole antennas, dipole antennas, dual dipole antennas, a combination of dipole and loop antennas. Further, in another embodiment, the antennas are positioned either within the plane of the thin film battery or superjacent to the thin film battery.

5,776,278 [IMAGE AVAILABLE] 3 CLASSIFICATIONS L4: 4 of 22

1. 156/213 OR
2. 29/855 XR
3. 156/308.4 XR

US PAT NO: 5,776,275 [IMAGE AVAILABLE] L4: 5 of 22

DATE ISSUED: Jul. 7, 1998

TITLE: Fabrication of compact magnetic circulator components in microwave packages using high density interconnections

INVENTOR: Vikram Bidare Krishnamurthy, Latham, NY

Kyung Wook Paik, Clifton Park, NY

Mario Ghezzi, Ballston Lake, NY

William Paul Kornrumpf, Albany, NY

Eric Joseph Wildi, Niskayuna, NY (Rule 47)

ASSIGNEE: Martin Marietta Corporation, King of Prussia, PA (U.S. corp.)

APPL-NO: 08/734,558

DATE FILED: Oct. 21, 1996

ART-UNIT: 173

PRIM-EXMR: Francis J. Lorin

LEGAL-REP: Geoffrey H. Krauss, Brian J. Rees

US PAT NO: 5,776,275 [IMAGE AVAILABLE] L4: 5 of 22

ABSTRACT:

A magnetic circulator is incorporated into a multi-chip module using a microwave high density interconnect (HDI) structure. A prepackaged circulator can be inserted into a ready-made high density interconnected multi-chip module; this prepackaged circulator may use a stripline design having a signal line with two ground planes above and below the signal line, or a microstrip transmission line design having one signal line and one ground plane below the signal line. Alternatively a circulator can be manufactured directly in a high density interconnected multi-chip module, with a stripline, or a microstrip transmission line design.

5,776,275 [IMAGE AVAILABLE]

7 CLASSIFICATIONS

L4: 5 of 22

- |    |         |    |
|----|---------|----|
| 1. | 156/150 | OR |
| 2. | 29/832  | XR |
| 3. | 29/852  | XR |
| 4. | 333/1.1 | XR |
| 5. | 427/97  | XR |
| 6. | 427/128 | XR |
| 7. | 427/131 | XR |

US PAT NO: 5,757,073 [IMAGE AVAILABLE]

L4: 6 of 22

DATE ISSUED: May 26, 1998

TITLE: Heatsink and package structure for wirebond chip rework and replacement

INVENTOR: Mark Kenneth Hoffmeyer, Rochester, MN

ASSIGNEE: International Business Machines Corporation, Armonk, NY  
(U.S. corp.)

APPL-NO: 08/763,372

DATE FILED: Dec. 13, 1996

ART-UNIT: 258

PRIM-EXMR: Tom Thomas

ASST-EXMR: David B. Hardy

LEGAL-REP: Robert W. Lahtinen, Matthew J. Bussan

US PAT NO: 5,757,073 [IMAGE AVAILABLE]

L4: 6 of 22

ABSTRACT:

A direct chip attach to heatsink structure is shown and described which implements rework when the chip must be removed and replaced. A laminated heatsink includes a metal heatsink with a foil layer adhered to the chip attachment surface with the assembly secured to a carrier at a cutout opening therein that defines the chip attach site. The adhesive, either a dry film adhesive or a pressure sensitive adhesive, secures foil layer to heatsink and provides the interface of separation when a chip must be removed and replaced. By peeling the foil away from the heatsink, the foil, chip and non-reworkable die attach adhesive are removed as a unit, leaving no chip attach adhesive residue at the attachment site to be scraped or abraded away. The replacement chip can be installed either by directly installing with new die attach adhesive or by first restoring the foil layer prior to chip installation. The foil may be applied over the entire surface of the heatsink or may be patterned to provide the laminated foil coating only beneath the chip attach site. Further, the foil and heatsink may be of dissimilar metals to impart varying characteristics, such as a solderable surface to an aluminum heatsink. Also, the technique would be applicable to direct chip attachment directly to a rigid or flexible electronic circuit carrier assembly. In another form, the invention may be implemented using a foil layer with adhesive on both sides to secure the chip to a heatsink at the carrier assembly chip attach location. A further form of the invention uses a tape cavity packaging structure wherein the carrier assembly includes a laminated carrier/heatsink with aligned openings that create a chip attach cavity in the package and foil bonded to the heatsink across the base of the chip cavity by a layer of adhesive that also presents a chip attach adhesive across the base of the chip attach cavity. The structure affords a low profile assembly, enables rework/replacement, shortens wire

lengths and reduces wirebond loop heights.

5,757,073 [IMAGE AVAILABLE]

6 CLASSIFICATIONS

L4: 6 of 22

1. 257/700 OR
2. **156/94** XR
3. 257/706 XR
4. 438/4 XR
5. 438/15 XR
6. 438/119 XR

US PAT NO: 5,653,841 [IMAGE AVAILABLE]

L4: 7 of 22

DATE ISSUED: Aug. 5, 1997

TITLE: Fabrication of compact magnetic circulator components in microwave packages using high density interconnections

INVENTOR: Vikram Bidare Krishnamurthy, Latham, NY

Kyung Wook Paik, Clifton Park, NY

Mario Ghezzi, Ballston Lake, NY

William Paul Kornrumpf, Albany, NY

Eric Joseph Wildi, Niskayuna, NY

ASSIGNEE: Martin Marietta Corporation, King of Prussia, PA (U.S. corp.)

APPL-NO: 08/421,180

DATE FILED: Apr. 13, 1995

ART-UNIT: 131

PRIM-EXMR: Michael W. Ball

ASST-EXMR: Francis J. Lorin

LEGAL-REP: Brian J. Rees, Geoffrey H. Krauss

US PAT NO: 5,653,841 [IMAGE AVAILABLE]

L4: 7 of 22

ABSTRACT:

A magnetic circulator is incorporated into a multi-chip module using a microwave high density interconnect (HDI) structure. A prepackaged circulator can be inserted into a ready-made high density interconnected multi-chip module; this prepackaged circulator may use a stripline design having a signal line with two ground planes above and below the signal line, or a microstrip transmission line design having one signal line and one ground plane below the signal line. Alternatively a circulator can be manufactured directly in a high density interconnected multi-chip module, with a stripline, or a microstrip transmission line design.

5,653,841 [IMAGE AVAILABLE]

7 CLASSIFICATIONS

L4: 7 of 22

1. **156/150** OR
2. 29/832 XR
3. 29/852 XR
4. 333/1.1 XR
5. 427/97 XR
6. 427/128 XR
7. 427/131 XR

US PAT NO: 5,628,850 [IMAGE AVAILABLE]

L4: 8 of 22

DATE ISSUED: May 13, 1997

TITLE: Method for producing input/output connections in a ceramic device

INVENTOR: Carlos A. Sanchez, Belen, NM

Rong-Fong Huang, Albuquerque, NM

Michael W. Murphy, Placitas, NM

ASSIGNEE: Motorola, Inc., Schaumburg, IL (U.S. corp.)

APPL-NO: 08/504,973

DATE FILED: Jul. 20, 1995

ART-UNIT: 134

PRIM-EXMR: James Engel

ASST-EXMR: M. Curtis Mayes  
LEGAL-REP: Gary J. Cunningham, Brian M. Mancini

US PAT NO: 5,628,850 [IMAGE AVAILABLE] L4: 8 of 22

ABSTRACT:

A method for producing input/output connections in a ceramic device is disclosed. The ceramic device can provide wraparound input/output connections. The method can include first providing first and second green ceramic layers, forming at least one via in each ceramic layer, the at least one via in the second layer being offset from and connecting to the via in the first ceramic layer, filling the vias with metallization, laminating the ceramic layers to form a laminate, scoring the laminate along at least one line extending through the first via and into a portion of the second ceramic layer such that the line does not intersect the at least one second via the ceramic laminate and metalization, and cleaving the laminate along the scored line. A ceramic device using this method can provide a wraparound connection extending partially up the side thereof, which can be advantageous in many multi-layer applications.

5,628,850 [IMAGE AVAILABLE] 5 CLASSIFICATIONS L4: 8 of 22

- |    |           |    |
|----|-----------|----|
| 1. | 156/89.12 | OR |
| 2. | 156/252   | XR |
| 3. | 156/253   | XR |
| 4. | 156/268   | XR |
| 5. | 419/7     | XR |

US PAT NO: 5,604,972 [IMAGE AVAILABLE] L4: 9 of 22  
DATE ISSUED: Feb. 25, 1997  
TITLE: Method of manufacturing a helical antenna  
INVENTOR: Charles D. McCarrick, Plymouth, MA  
ASSIGNEE: AMSC Subsidiary Corporation (U.S. corp.)  
APPL-NO: 08/481,995  
DATE FILED: Jun. 7, 1995  
ART-UNIT: 326  
PRIM-EXMR: Carl J. Arbes  
LEGAL-REP: Lowe, Price, LeBlanc & Becker

US PAT NO: 5,604,972 [IMAGE AVAILABLE] L4: 9 of 22

ABSTRACT:

A mobile vehicular antenna for use in accessing stationary geosynchronous and/or geostable satellites. A multi-turn quadrifilar helix antenna is fed in phase rotation at its base and is provided with a pitch and/or diameter adjustment for the helix elements, causing beam scanning in the elevation plane while remaining relatively omni-directional in azimuth. The antenna diameter and helical pitch are optimized to reduce the frequency scanning effect. A technique is provided for aiming the antenna to compensate for any remaining frequency scanning effect.

5,604,972 [IMAGE AVAILABLE] 4 CLASSIFICATIONS L4: 9 of 22

- |    |         |    |
|----|---------|----|
| 1. | 29/600  | OR |
| 2. | 138/122 | XR |
| 3. | 156/175 | XR |
| 4. | 343/895 | XR |

US PAT NO: 5,516,385 [IMAGE AVAILABLE] L4: 10 of 22  
DATE ISSUED: May 14, 1996  
TITLE: Method for fabricating honeycomb insulating material  
INVENTOR: Frank C. Romeo, Fort Worth, TX  
Ronald J. Davis, Euless, TX  
Harlan A. Holmes, Los Angeles, CA



ASSIGNEE: Newell Operating Co., Freeport, IL (U.S. corp.)  
APPL-NO: 08/241,281  
DATE FILED: May 11, 1994  
ART-UNIT: 131  
PRIM-EXMR: Michael W. Ball  
ASST-EXMR: Richard Crispino  
LEGAL-REP: Foley & Lardner

US PAT NO: 5,516,385 [IMAGE AVAILABLE]

L4: 10 of 22

ABSTRACT:

Apparatus for mass producing one or more individual stacks of expandable, secured together tubular strips which includes a stacking station having an inlet and a conveyor system for sequentially delivering tubular strips having a flat face sequentially to a point opposite said inlet. The stacking station includes pushing apparatus opposite said inlet for pushing the strip delivered opposite said inlet into said chamber. The pushing apparatus has a strip-holding face lying in a given plane and having suction apertures for holding said flat face of each strip delivered thereto in said plane. The pushing member is moved back and forth into and out of said stacking chamber at said inlet with said strip-holding face presented parallel to the flat face of the previous strip delivered to said stacking chamber to push the opposite side of the strip against the flat face of the adjacent strip in said chamber to secure the strips together and form a substantially unwrinkled stack of aligned strips.

5,516,385 [IMAGE AVAILABLE]

3 CLASSIFICATIONS

L4: 10 of 22

1. 156/200 OR
2. 156/264 XR
3. 156/270 XR

US PAT NO: 5,456,782 [IMAGE AVAILABLE]

L4: 11 of 22

DATE ISSUED: Oct. 10, 1995

TITLE: Toner carrier and method of producing the same

INVENTOR: Takashi Fujita, Kawasaki, Japan  
Atsushi Ohta, Yokohama, Japan  
Mitsuru Hasegawa, Yokohama, Japan  
Seiji Ishii, Chigasaki, Japan

ASSIGNEE: Ricoh Company, Ltd., Tokyo, Japan (foreign corp.)

APPL-NO: 08/323,574

DATE FILED: Oct. 17, 1994

ART-UNIT: 134

PRIM-EXMR: James Engel

LEGAL-REP: Oblon, Spivak, McClelland, Maier & Neustadt

US PAT NO: 5,456,782 [IMAGE AVAILABLE]

L4: 11 of 22

ABSTRACT:

A method of producing a developing roller applicable to a developing device included in an image forming apparatus and capable of carrying a great amount of toner thereon by generating microfields. The surface of a conductive base is covered with a net constituting of conductive fibers and dielectric fibers woven together. The fibers are heated by a heater to melt with the result that conductive portions and dielectric portions appear on the surface of the developing roller.

5,456,782 [IMAGE AVAILABLE]

4 CLASSIFICATIONS

L4: 11 of 22

1. 156/184 OR
2. 156/169 XR
3. 156/172 XR
4. 399/286 XR

US PAT NO: 5,417,794 [IMAGE AVAILABLE] L4: 12 of 22  
DATE ISSUED: May 23, 1995  
TITLE: Apparatus for simultaneously disposing tubular labels on a plurality of bottles or other containers  
INVENTOR: Victor V. Menayan, Cary, NC  
ASSIGNEE: Venture Packaging, Inc., Charlotte, NC (U.S. corp.)  
APPL-NO: 08/213,506  
DATE FILED: Feb. 22, 1994  
ART-UNIT: 134  
PRIM-EXMR: David A. Simmons  
ASST-EXMR: Paul M. Rivard  
LEGAL-REP: Shefte, Pinckney & Sawyer

US PAT NO: 5,417,794 [IMAGE AVAILABLE] L4: 12 of 22

ABSTRACT:

An apparatus for simultaneously disposing tubular labels on a plurality of bottles or other containers includes an assembly for advancing the bottles or other containers along an endless travel path. The apparatus also includes a plurality of tubular label applying stations each operable to individually apply a tubular label onto a bottle or other container as the bottle or other container is advanced along the travel path. The advancing assembly is preferably in the form of a rotating plate supporting the bottles or other containers thereon at uniform angular spacings from one another and the tubular label applying stations are preferably also supported on the rotating plate. A cam and cam follower arrangement is utilized for controlling each tubular label applying station to perform its label applying operation in coordination with the advancing movement of its associate bottle or other container.

5,417,794 [IMAGE AVAILABLE] 4 CLASSIFICATIONS L4: 12 of 22

1. 156/362 OR
2. 53/291 XR
3. 156/86 XR
4. 156/568 XR

US PAT NO: 5,334,275 [IMAGE AVAILABLE] L4: 13 of 22  
DATE ISSUED: Aug. 2, 1994  
TITLE: Method and apparatus for stacking and fabricating honeycomb insulating material  
INVENTOR: Frank C. Romeo, Fort Worth, TX  
Harlan A. Holmes, Los Angeles, CA  
ASSIGNEE: Home Fashions, Inc., Santa Monica, CA (U.S. corp.)  
APPL-NO: 07/839,600  
DATE FILED: Feb. 21, 1992  
ART-UNIT: 131  
PRIM-EXMR: Michael W. Ball  
ASST-EXMR: Richard Crispino  
LEGAL-REP: Wallenstein, Wagner & Hattis, Ltd.

US PAT NO: 5,334,275 [IMAGE AVAILABLE] L4: 13 of 22

ABSTRACT:

Apparatus for mass producing one or more individual stacks of expandable, secured together tubular strips which includes a stacking station having an inlet and a conveyor system for sequentially delivering tubular strips having a flat face sequentially to a point opposite said inlet. The stacking station includes pushing apparatus opposite said inlet for pushing the strip delivered opposite said inlet into said chamber. The pushing apparatus has a strip-holding face lying in a given plane and having suction apertures for holding said flat face of each strip delivered thereto in said plane. The pushing member is moved back and forth into and out of said stacking chamber at said inlet with said

strip-holding face presented parallel to the flat face of the previous strip delivered to said stacking chamber to push the opposite side of the strip against the flat face of the adjacent strip in said chamber to secure the strips together and form a substantially unwrinkled stack of aligned strips.

5,334,275 [IMAGE AVAILABLE]

9 CLASSIFICATIONS

L4: 13 of 22

1.	156/264	OR
2.	156/197	XR
3.	156/270	XR
4.	156/285	XR
5.	156/292	XR
6.	156/362	XR
7.	156/379	XR
8.	156/381	XR
9.	156/563	XR

US PAT NO: 5,239,457 [IMAGE AVAILABLE]

L4: 14 of 22

DATE ISSUED: Aug. 24, 1993

TITLE: Redirect roller control for fiber placement machine

INVENTOR: Richard L. Steidle, Cincinnati, OH

David C. Swope, North Bend, OH

ASSIGNEE: Cincinnati Milacron Inc., Cincinnati, OH (U.S. corp.)

APPL-NO: 07/553,518

DATE FILED: Jul. 16, 1990

ART-UNIT: 236

PRIM-EXMR: Joseph Ruggiero

LEGAL-REP: Thomas M. Farrell

US PAT NO: 5,239,457 [IMAGE AVAILABLE]

L4: 14 of 22

#### ABSTRACT:

To maintain alignment of a band of fiber tows as it travels between a source of such tows and a fiber placement head in a computer controlled fiber placement machine, a pair of redirect rollers are provided, at least one of which is automatically and drivingly swivelled by an amount related to commanded movement of the fiber placement head relative the source of tows so as to maintain alignment of the fiber band between the source and the fiber placement head such that a vector normal the fiber band and across the width thereof is parallel the longitudinal axis of rotation of the redirect roller as the fiber band passes thereover.

5,239,457 [IMAGE AVAILABLE]

5 CLASSIFICATIONS

L4: 14 of 22

1.	364/167.03	OR
2.	156/361	XR
3.	156/441	XR
4.	242/447	XR
5.	364/469.05	XR

US PAT NO: 5,223,072 [IMAGE AVAILABLE]

L4: 15 of 22

DATE ISSUED: Jun. 29, 1993

TITLE: Intelligent servo-controlled fiber placement machine tensioner

INVENTOR: John P. Brockman, Cincinnati, OH

Robert A. Carman, Cincinnati, OH

David C. Swope, North Bend, OH

Norman D. Neal, Loveland, OH

Harold D. Wiebe, Springdale, OH

ASSIGNEE: Cincinnati Milacron, Inc., Cincinnati, OH (U.S. corp.)

APPL-NO: 07/705,498

DATE FILED: May 24, 1991

ART-UNIT: 134

PRIM-EXMR: David A. Simmons  
ASST-EXMR: Mark A. Osele  
LEGAL-REP: Wood, Herron & Evans

US PAT NO: 5,223,072 [IMAGE AVAILABLE]

L4: 15 of 22

ABSTRACT:

To maintain tension on a fiber tow as it travels between a spool of the tow and a fiber placement head in a computer controlled fiber placement machine, closed tension loop servo control tow velocity feed forward is provided to control spool rotation so as to not only provide closed loop tension control but to also cause rotation in anticipation of expected tow movement such as due to tow payout upon commanded movements of the fiber placement head. Gain scheduling based on spool radius is also provided. Additionally, a compliant roller is provided to reduce tension dips and spikes from disturbances on the tow, and an inner velocity loop is included with the closed tension loop to provide more effective control of tow tension. The servo control is reconfigurable into an open or pseudo-closed loop mode with a safety low power supply to slowly reel-up slack tow after tow threading, for example, and to otherwise maintain low tension on the tow to hold it in the machine while allowing servicing thereof. A broken tow test is also provided to detect tow slippage indicative of tow breakage or a possible part defect.

5,223,072 [IMAGE AVAILABLE]

7 CLASSIFICATIONS

L4: 15 of 22

1. 242/420.6 OR
2. **156/425** XR
3. **156/433** XR
4. **156/523** XR
5. **156/574** XR
6. 242/437.3 XR
7. 242/443 XR

US PAT NO: 5,181,264 [IMAGE AVAILABLE]

L4: 16 of 22

DATE ISSUED: Jan. 19, 1993

TITLE: **Transceiver** for bidirectional signal transmission over  
a monomodal optical fiber

INVENTOR: Guido Chiaretti, Novate Milanese, Italy  
Francesco Blandano, Corbetta, Italy

ASSIGNEE: Italtel Societa Italiana Telecomunicazioni S.p.A., Milan,  
Italy (foreign corp.)

APPL-NO: 07/731,147

DATE FILED: Jun. 21, 1991

ART-UNIT: 251

PRIM-EXMR: Brian Healy

US PAT NO: 5,181,264 [IMAGE AVAILABLE]

L4: 16 of 22

ABSTRACT:

A circuit arrangement is provided for allowing the bidirectional exchange of received and transmitted signals over a single monomodal optical fiber. The light transmitter (usually a laser or a LED), the receiver of optical signals and an optical system suitable for directing the optical signal to be transmitted to the monomodal optical fiber and for directing the optical signal from the monomodal optical fiber to the receiver collects the signals in one passage. The optical system uses an optical **transceiver** employing a light transmitter and a light receiver. This optical **transceiver** is formed in a unitary housing. The optical system includes first and second lenses which may be graded-index waveguide sections and a planar filter disposed therebetween, the planar filter typically being an interferential filter. The optical system is formed on a support which allows the light transmitter which is typically a laser to be disposed directly adjacent one of the lenses. The surface of the lens abutting the optical communication fiber and optical stub is

angled with respect to perpendicular to the axis of the symmetry of the optical system to prevent reflected optical power from entering the light transmitter, particularly when it is a laser, hereby reducing noise and instability within the laser source.

5,181,264 [IMAGE AVAILABLE] 8 CLASSIFICATIONS L4: 16 of 22

1.	385/33	OR
2.	<b>156/60</b>	XR
3.	<b>156/158</b>	XR
4.	359/152	XR
5.	359/173	XR
6.	385/34	XR
7.	385/51	XR
8.	385/93	XR

US PAT NO: 5,149,211 [IMAGE AVAILABLE] L4: 17 of 22  
DATE ISSUED: Sep. 22, 1992  
TITLE: Printers and ancillary systems  
INVENTOR: Robert M. Pettigrew, Pound Cottage, High Street, Foxton,  
Cambridgeshire, United Kingdom  
Alan J. Harry, 2 The Lawns, Melbourn, Royston,  
Hertfordshire SG8 6BA, United Kingdom  
Paul R. Nailor, 82b Queen's Drive, Finsbury Park, London  
N4, United Kingdom  
Fred Adelman, Pestalozzistrasse 7, 6930 Eberbach am  
Neckar, Federal Republic of Germany  
Peter Franzen, Ersheimer Strasse 9, 6932 Hirschhorn am  
Neckar, Federal Republic of Germany  
Juergen Schoon, Tannenhalde 6, 6930 Eberbach am Neckar,  
Federal Republic of Germany  
APPL-NO: 07/594,372  
DATE FILED: Oct. 9, 1990  
ART-UNIT: 337  
PRIM-EXMR: David A. Wiecking  
ASST-EXMR: Steven S. Kelley  
LEGAL-REP: Poms, Smith, Lande & Rose

US PAT NO: 5,149,211 [IMAGE AVAILABLE] L4: 17 of 22

ABSTRACT:

Improved printers are disclosed which are characterized by means for inputting data which is arranged to function without the use of an alpha-numeric keyboard. The data inputting means may be a cursor moving device operating in conjunction with a graphics display system; a graphics display system having a touch-sensitive screen; a speech recognition unit; a memory or "smart card"; or an integral bar code reader. The cursor moving devices may be, for example, a tracker ball or a mouse.

5,149,211 [IMAGE AVAILABLE] 4 CLASSIFICATIONS L4: 17 of 22

1.	400/88	OR
2.	<b>156/384</b>	XR
3.	345/157	XR
4.	400/86	XR

US PAT NO: 5,078,824 [IMAGE AVAILABLE] L4: 18 of 22  
DATE ISSUED: Jan. 7, 1992  
TITLE: Semiconductor device manufacturing apparatus  
INVENTOR: Shuzo Fujimura, Tokyo, Japan  
ASSIGNEE: Fujitsu Limited, Kawasaki, Japan (foreign corp.)  
APPL-NO: 07/492,139  
DATE FILED: Mar. 13, 1990

ART-UNIT: 134  
PRIM-EXMR: William A. Powell  
LEGAL-REP: Staas & Halsey

US PAT NO: 5,078,824 [IMAGE AVAILABLE]

L4: 18 of 22

ABSTRACT:

A semiconductor double-chamber etching apparatus which can be manually operated in a maintenance area by connecting a movable manual operation panel, with a communication device, to any one of a plurality of relay stations provided on the etching apparatus facing maintenance area. In this case, the manual operation panel of the etching apparatus provided on a face of the etching apparatus facing a clean room is not used. The clean room is adjacent to the maintenance area, and is separated from the maintenance room by a partition wall.

5,078,824 [IMAGE AVAILABLE]

4 CLASSIFICATIONS

L4: 18 of 22

1. **156/345** OR
2. 29/25.01 XR
3. 204/298.01 XR
4. 438/908 XR

US PAT NO: 5,072,359 [IMAGE AVAILABLE]

L4: 19 of 22

DATE ISSUED: Dec. 10, 1991

TITLE: Spatially-clocked digital steering servo for tape-laying machine

INVENTOR: R. William Kneifel, II, Cincinnati, OH

ASSIGNEE: Cincinnati Milacron Inc., Cincinnati, OH (U.S. corp.)

APPL-NO: 07/508,447

DATE FILED: Apr. 13, 1990

ART-UNIT: 236

PRIM-EXMR: Jerry Smith

ASST-EXMR: Patrick D. Muir

LEGAL-REP: John W. Gregg

US PAT NO: 5,072,359 [IMAGE AVAILABLE]

L4: 19 of 22

ABSTRACT:

A spatially-clocked system in a program controlled tape layer corrects for tape displacement error by rotating the tape application member after a predetermined length of tape is applied rather than on a temporal basis. An interpolator is provided to determine spatial clock period displacement in a temporally-clocked control system.

5,072,359 [IMAGE AVAILABLE]

4 CLASSIFICATIONS

L4: 19 of 22

1. 364/469.02 OR
2. **156/361** XR
3. **156/574** XR
4. 226/21 XR

US PAT NO: 5,045,368 [IMAGE AVAILABLE]

L4: 20 of 22

DATE ISSUED: Sep. 3, 1991

TITLE: Self-dispensing spaced electronic markers

INVENTOR: Armond D. Cosman, Austin, TX

Joe T. Minarovic, Austin, TX

David C. Worboys, Austin, TX

ASSIGNEE: Minnesota Mining and Manufacturing Company, St. Paul, MN  
(U.S. corp.)

APPL-NO: 07/437,732

DATE FILED: Nov. 17, 1989

ART-UNIT: 158

PRIM-EXMR: Alexander S. Thomas

## ABSTRACT:

A marked conduit allowing electronic location of the conduit after burial, having a plurality of electronic markers spaced thereon at predetermined intervals. The distance between the markers encodes information about the buried conduit. The markers are preferably passive circuits tuned to a specific frequency. The markers may be oriented in a predetermined pattern to encode additional information, and may be attached to the outer or inner surface of the conduit, or imbedded in the wall of the conduit.

- |    |               |    |
|----|---------------|----|
| 1. | 428/34.1      | OR |
| 2. | <b>156/68</b> | XR |
| 3. | 324/326       | XR |
| 4. | 405/157       | XR |
| 5. | 428/77        | XR |

US PAT NO: 4,844,573 [IMAGE AVAILABLE] L4: 21 of 22  
DATE ISSUED: Jul. 4, 1989  
TITLE: Electro-optical converter including rigid support for  
optical fiber coupler, telephone set using the coupler  
and method of making same  
INVENTOR: Frederick J. Gillham, Westborough, MA  
David W. Stowe, Medfield, MA  
ASSIGNEE: Aster Corporation, Milford, MA (U.S. corp.)  
APPL-NO: 07/053,054  
DATE FILED: May 22, 1987  
ART-UNIT: 251  
PRIM-EXMR: William L. Sikes  
ASST-EXMR: Brian M. Healy

## ABSTRACT:

An electro-optical converter has at least three optical or electrical ports at least one of which is optical and one of which is electrical. The converter includes an essentially rigid support, a fiber-optic lateral coupler secured to the support including at least two length-wise continuous optical fibers juxtaposed along a portion of their length to provide lateral transfer of optical energy therebetween, and an electro-optical device also secured to the support in close relationship to the coupler. The device has at least one optical port and at least one electrical port. One of the coupler fibers communicates within the converter with the optical port of the electro-optical device, to serve as an internal signal link therebetween. The length of the link between coupler and electro-optical device is of the order of 10 centimeters or less. Protective means associated with the optical fibers, the electro-optical device and the internal link serve to protect the components from outside physical disturbance.

- |    |                |    |
|----|----------------|----|
| 1. | 385/42         | OR |
| 2. | 65/408         | XR |
| 3. | <b>156/60</b>  | XR |
| 4. | <b>156/158</b> | XR |
| 5. | <b>156/161</b> | XR |
| 6. | 250/227.24     | XR |
| 7. | 250/227.31     | XR |
| 8. | 359/118        | XR |

9.	359/123	XR
10.	359/173	XR
11.	359/900	XR
12.	379/379	XR
13.	379/433	XR
14.	385/44	XR
15.	385/45	XR
16.	385/51	XR
17.	385/89	XR
18.	385/92	XR

US PAT NO: 4,799,981 [IMAGE AVAILABLE] L4: 22 of 22  
DATE ISSUED: Jan. 24, 1989  
TITLE: Spool servo control for tape web positioning  
INVENTOR: Kirby L. Stone, Cincinnati, OH  
R. W. Kneifel, II, Cincinnati, OH  
John P. Brockman, Cincinnati, OH  
ASSIGNEE: Cincinnati Milacron Inc., Cincinnati, OH (U.S. corp.)  
APPL-NO: 07/168,361  
DATE FILED: Mar. 15, 1988  
ART-UNIT: 131  
PRIM-EXMR: David Simmons  
LEGAL-REP: Wood, Herron & Evans

US PAT NO: 4,799,981 [IMAGE AVAILABLE] L4: 22 of 22

ABSTRACT:

Servo spool control for tape web positioning is disclosed wherein the position of the web between two spools may be accurately known and controlled and the tension on the web maintained. To accomplish such control, the motors driving the respective spools are driven by dynamic torque signals in response to change in position commands from a computer controller wherein the dynamic torque signals are correlated to the inertial torque and frictional torque of the spools and their drives.

4,799,981 [IMAGE AVAILABLE] 6 CLASSIFICATIONS L4: 22 of 22

1.	156/64	OR
2.	156/361	XR
3.	156/523	XR
4.	156/541	XR
5.	156/574	XR
6.	318/567	XR

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ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF